WILDERNESS EVALUATION

LIBERTY BELL - 608026

114,671 acres

OVERVIEW

History

The area was originally inventoried as three separate roadless areas totaling approximately 157,900 acres during RARE I. The areas were Driveway Butte (6,900 acres), Liberty Bell (145,400 acres), and Canyon Creek (5,600 acres). The Liberty Bell area included lands on both sides of the North Cascades Highway. The areas were combined during RARE II except for that portion of the Liberty Bell area south of the North Cascades Highway which was included with the Sawtooth Roadless area. The RARE II process did not recommend the area for wilderness designation. The Washington State Wilderness Act of 1984 designated approximately 87,757 acres on both sides of Highway 20 as part of North Cascades Scenic Highway which permits management activities if existing scenic and recreational values are maintained. The 2006 inventory removed approximately 56 acres from previous inventory due to nonconforming uses such as road construction and logging; 6,243 acres were added to the previous inventory as they meet the criteria for a potential wilderness area (PWA) as described in Forest Service Handbook (FSH) 1909.12, Chapter 70. The following chart depicts the 1989 Okanogan National Forest Land and Resource Management Plan direction for the 2006 potential wilderness area.

Table 1--Management area percentages (rounded)

Okanogan National Forest				
MA30	**MA32**	**MA34**	**MA36**	**MA37**
Semi-primitive Non-motorized 45%	Roaded Recreation and Scenery 6%	North Cascades Scenic Area 27%	Mt. Goat Habitat 6%	Mt. Goat Habitat 15%

Location and Access

The area is located west of Winthrop in the northwest portion of the Okanogan-Wenatchee National Forest. Lands are located in Okanogan, Skagit, Whatcom, and Chelan Counties. From Winthrop, access is provided over State Highway 20, and county and national forest roads in the Lost River and Harts Pass areas.

Geography and Topography

Much of the area is characterized by steep, rugged mountains with cirque basins, numerous avalanche tracks, high gradient streams, and steep headwalls. Ridges are generally sharp or

knife-edged. Major valleys show the broad U-shape typical of glaciated valleys. Some permanent snowfields can be found. Elevations range from 1,800 feet along Ruby Creek to approximately 8,800 feet on Golden Horn Peak.

Current Uses

Numerous trails provide access through the area including a portion of the Pacific Crest National Scenic Trail and the Cutthroat National Recreation Trail. The North Cascades Scenic Highway passes just to the south and west of this roadless area. Several mountain peaks challenge climbers. Recreation use is moderate to high throughout the area. Several outfitter-guides provide services including backpacking, horseback riding, hunting, alpine mountaineering, helicopter-assisted and backcountry skiing. The area is also popular, and portions of it are heavily used during the winter by snowmobilers, cross-country skiers, and backcountry skiers. Snowmobilers tend to use the area within one mile of the North Cascades Scenic Highway and the Harts Pass area.

This area offers the greatest and most diversified mineral potential of any of the potential wilderness areas on the Methow Valley Ranger District. There are active mining claims within the area.

Appearance and Surroundings

The area is characterized by forested valleys rising to scenic high mountain peaks, ridges, and subalpine meadows. The West Fork Methow River runs through the eastern portion. The Needles Fire in 2003 burned 24,000 acres within the area. The northwestern boundary is adjacent to the Pasayten Wilderness. The southern boundary is adjacent to State Highway 20.There are 200 acres of patented mine claims within the area.

Key Attractions

Key attractions are Cutthroat Lake National Recreation Trail, Cutthroat Pass, Snowy Lakes area, Grasshopper Pass, Harts Pass area and the Pacific Crest Trail. The scenery viewed from the North Cascades Scenic Highway is also an important attraction.

CAPABILITY FOR WILDERNESS

Level of Natural and Undeveloped Environment

The interior of the area which includes the Pacific Crest Trail appears primarily natural with signs of human influence confined to trails and undeveloped campsites. Vegetation and topographic diversity is different from most of the other potential wilderness areas on the national forest, but similar to surrounding areas of the North Cascades. The major impacts to the natural integrity and appearance in some portions of the area include activity relating to helispots and past and present mining. The entire southern boundary is adjacent to State Highway 20. The highway is visible and audible from various locations within a mile of the highway. Harts Pass Road is visible and audible from the area between the road and the surrounding ridges. The Azurite Mine in Mill Creek has been designated for cleanup under the Comprehensive Environmental Response, Compensation and Liability Fund (CERCLA). The Azurite Mine has old roads, buildings, tailing piles, excavation

areas and other features associated with mining. Cleanup will involve motorized equipment and transportation. There are several other mining claims, which have similar features on a smaller scale.

The West Fork Methow trailhead and trail has scattered populations of diffuse knapweed (*Centaurea diffusa*), a noxious weed, totaling 20 acres.

Water quality data is not available for most of the PWA; however due, to the relatively low level disturbance water quality is assumed to be high. Early Winters Creek does have 1.8 miles classified by the Washington State Department of Ecology as Category 4C, which are waters where some characteristic uses of a waterbody segment may be impaired due to aquatic habitat degradation that is not the result of a pollutant.

The Liberty Bell PWA is minimally impaired by light pollution from the Methow Valley area. The entire PWA rates as Class 2 on the Bortle scale. A Class 2 Typical Truly Dark Sky represents the darkest skies viewed in the continental United States. The summer Milky Way is highly structured to the unaided eye. Any clouds in the sky are visible only as dark holes or voids in the starry background. No light domes from population centers are visible.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation

Opportunities for solitude range from low on the exterior of the area to high in the central, more rugged portion of the area. The central portion of the area provides primitive recreation opportunities including hiking, backpacking, horseback riding and hunting. The opportunities for challenge range from low on the exterior portions to high on steeper, more rugged topography.

Special Features

Golden Horn is an outstanding geologic formation. Unique topographic sites that are suitable for wolverine natal dens are present in the Liberty Bell PWA. The area lies within the North Cascades Grizzly Bear recovery zone, and within the core recovery area for the Canada lynx, and provides source habitat for wolverine. All of these species have very limited distribution within the region.

The scenic area encompassed by the North Cascades Scenic Highway draws many thousands of visitors along the highway corridor, where they view the Liberty Bell PWA and Sawtooth PWA. Liberty Bell, a peak remarkably shaped for its namesake bell, is located in the Sawtooth PWA, but viewed from the Liberty Bell PWA.

The *Cultural Resource Overview of the Twisp-Winthrop-Conconully Planning Unit* (Bennett, 1979) identified evidence of numerous cabins and several lookouts and mines in the area.

Manageability and Boundaries

It would be difficult to manage the area as either an addition to the Pasayten Wilderness or as a separate wilderness. Adding this area to the Pasayten Wilderness would create a long protrusion from the existing boundary between the North Cascades Scenic Highway and

the Harts Pass road. Although readily defined ridges could be used as boundaries on the southeast and southwest portions, placing the boundary on readily defined features on the northeast portion would greatly reduce the size of the area. These same factors affect the capability of managing the area as a separate wilderness.

AVAILABILITY FOR WILDERNESS

Recreation

Most of the interior portion of the area provides semi-primitive, non-motorized recreation opportunities. Those portions of the area adjacent to the North Cascades Scenic Highway and the Harts Pass road provide a more modified setting. A portion of the area near Barron Creek is influenced by past mining activity. The primary recreation features are the spectacular scenery and geologic formations, and high lakes and streams. Numerous trails provide access through the area including a portion of the Pacific Crest National Scenic Trail and the Cutthroat National Recreation Trail. Both the North Cascades Scenic Highway and the Pacific Crest National Scenic Trail have national designations.

Recreation is the primary use of the area with a significant increase in use over the last ten years. Recreation use is moderate to high throughout the area but particularly in the North Cascades Scenic Corridor and along the Pacific Crest National Scenic Trail. Recreational activities include hiking, backpacking horseback riding, climbing, backcountry skiing and snowboarding and mountain biking. Group size is not limited. Several outfitter-guides provide services including backpacking, horseback riding, hunting, alpine mountaineering, helicopter assisted skiing and backcountry skiing. There are no trails open to snowmobiles but areas outside the trails are open and used by snowmobiles. Sixty-seven miles of the non-motorized trails are open to mountain bikes but due to trail gradient and maintenance levels, only twenty-four miles receive mountain bike use. Mountain biking and helicopter assisted skiing would not be compatible with wilderness designation. Other recreational activities would continue under wilderness designation but would be limited to smaller groups than currently allowed.

Table 2-- Miles of recreation trails

Motorized Trails	Non-motorized Trails	Snowmobile Trails
0	97	0

Wildlife

The area provides suitable habitat for the gray wolf (federally listed as endangered), the grizzly bear, lynx, and northern spotted owl (federally listed as threatened), and the wolverine (listed by the Forest Service as a sensitive species). Unique topographic sites that are suitable for wolverine natal dens are present in the Liberty Bell area. Lynx, wolverine, and northern spotted owl are known to occur in the area. Gray wolf and grizzly bear are suspected to occur. The Liberty Bell PWA is adjacent to the Pasayten Wilderness and the Sawtooth PWA and thus is important for wide-ranging species that require large

areas with minimal human disturbances, such as grizzly bear, gray wolf, and wolverine. Together, the Liberty Bell and Sawtooth areas connect the Pasayten and Lake Chelan-Sawtooth Wildernesses resulting in a large, continuous block of remote, undeveloped habitat for these species. Mountain goats inhabit portions of the area. Steep, rocky outcrops and cliffs provide necessary security cover for them. Mixed conifer old growth in the area provides productive habitat for several species of wildlife. Snag habitat for cavity dwellers is abundant due to recent insect and disease outbreaks and large wildfires.

The PWAs provide varying levels of habitat for focal wildlife species. To help evaluate the habitat these areas provide, the following information was provided: the focal species emphasized in the area, the amount of habitat for each focal species, the priority ranking for the habitat (based on conservation assessments and recovery plans), and the proportion of the total habitat available on the Forest that is within this particular PWA.

Table 3--Availability of habitat for federally listed Threatened and Endangered wildlife species, and R6 focal species

Wildlife Species	Acres of Habitat	Habitat Priority Ranking (1=high, 2=mod., 3=low)	%Total Forest Habitat in Evaluation Area
Grizzly bear	70,300	1	2
Canada lynx	3,584	1	<1
Wolverine	70,072	1	1
American marten	2,054	3	1

Water and Fish

The Liberty Bell PWA contains lands in both the Methow and Upper Skagit River Subbasins (4th HUC). The portion in the Methow River Subbasin contains the Upper Methow and Early Winters Key Watersheds (5th HUC), as designated by the Northwest Forest Plan. The Methow portion of the PWA contains parts of the following subwatersheds (6th HUC): Early Winters, Rattlesnake, West Fork Methow, and Upper Bridge Creek. Nearly half of the Early Winters and Rattlesnake subwatersheds, and almost all of the West Fork Methow subwatershed are located in the PWA. Less than a quarter of the Upper Bridge Creek subwatershed is located in the Liberty Bell PWA. Upper Bridge Creek, West Fork Methow, and Early Winters subwatersheds have vegetation conditions within the historic range of variability, and analyzed road effects are low. When vegetation conditions and road-related effects are considered cumulatively, all three of these subwatersheds are rated good. The Rattlesnake subwatershed has some changes in expected vegetation conditions and some road effects. When vegetation conditions and road-related effects are considered cumulatively, the Rattlesnake subwatershed is rated fair.

The Skagit portion of the PWA contains parts of the following subwatersheds (6th HUC): Granite Creek, Upper Canyon Creek, Lower Canyon Creek, and Panther Creek. Almost three quarters of Lower Canyon Creek subwatershed, and nearly half of Granite Creek and Upper Canyon Creek subwatersheds are located within the Liberty Bell potential wilderness area. For all of the subwatersheds in Skagit Subbasin, vegetation conditions are within the historic range of variability, and analyzed road effects are low. When vegetation

conditions and road-related effects are considered cumulatively, all of these subwatersheds are rated good.

Major drainages within the PWA include West Fork Methow River, Canyon Creek, Early Winters Creek, Granite Creek, and Ruby Creek. These drainages contribute high quality water to the Skagit and Methow River basins, an essential component aiding the recovery of listed fish species in these drainages. In the Upper Skagit watershed, threatened bull trout use Canyon Creek, Granite Creek, and Ruby Creek for spawning and rearing. In the Methow River watershed, threatened bull trout and Upper Columbia River (UCR) summer steelhead and endangered UCR spring Chinook salmon spawn and rear in West Fork Methow River and Early Winters Creek. West Fork Methow River and Early Winters Creek are designated as critical habitat for steelhead and Chinook salmon. Populations of Westslope cutthroat trout, on the Regional Foresters Sensitive Species List, are found in streams in and downstream of this area. Water quality and habitat conditions in all the above drainages are near optimal.

The major uses of water in the above streams are for fish habitat, irrigation, and recreation. There are no existing power withdrawals and no current Federal Energy Regulatory Commission (FERC) permits or licenses. In 1982, a request was filed with FERC to build a series of small hydro projects on Granite and Canyon Creeks. The FERC told the applicant to apply for a preliminary permit or license. An application was filed, but soon discontinued.

The PWA has a water source protection area totaling 920 acres of stream that contributes to a community water system for the Chelan County Public Utilities Department.

From an aquatic viewpoint, the Liberty Bell PWA contains properly functioning ecological processes that are essential to the recovery of listed fish species located within the basin. Wilderness designation would protect these ecological functions. However, that objective could be accomplished without wilderness designation as long as the Liberty Bell PWA remained un-roaded.

Range

Commercial grazing does not occur in this PWA.

Table 4--Percentage of Grazing Suitability Areas and Current Allotments

Percent Area Suitable for Cattle Grazing	Percent Area Currently in Cattle Allotments	Percent Area Suitable for Sheep Grazing	Percent Area Currently in Sheep Allotments
5	0	12	0

Vegetation and Ecology

High elevation coupled with shallow soils result in most of the area being in the subalpine or alpine zones. The majority of the lands support mature mixed conifer and lodgepole pine stands. Trees are widely scattered and growth is stunted. Grass, shrubs, and heather are the most common ground cover. Typical west-side old-growth fir stands are found along Ruby Creek. Coniferous trees present include Douglas-fir, Engelmann spruce,

western red cedar, subalpine fir, mountain hemlock, and Pacific silver fir at the higher elevations, and ponderosa pine and lodgepole pine at lower elevations.

Options to utilize mechanical treatments to manage vegetation would be precluded if designated wilderness. Generally the priority for restoration treatments occurs within the wildland urban interface (WUI) or within the dry and mesic forest groups. Because WUI represents about 30,000 acres of the PWA, the prohibition on restorative treatments is a large concern. The concern is mostly concentrated on the dry and mesic forest which occupies about 8,000 acres of WUI in the area. The Healthy Forest Restoration Act authorizes direction to implement fuel reductions in the WUI. The HFRA prohibits authorized projects in wilderness areas.

Timber Harvest Suitability

The underlying criteria for determining timber harvest suitability are found in the Forest and Rangeland Renewable Resources Planning Act of 1974, 36CFR219.12, and Forest Service Handbook 1909.12, Chapter 60.

For the Colville and Okanogan-Wenatchee National Forests, the general criteria for timber suitability that will be used for timber harvest suitability are:

- Is it forest land (10 percent crown cover minimum, productivity >20 ft^3/ac/yr).
- The area has not been withdrawn from timber harvest or production.
- Soil, slope, or other watershed conditions will not be irreversibly damaged (based on soil attributes for erosion, instability, or compaction potential, slopes >65 percent, and certain land types)
- Reforestation can be assured within five years (lack of shallow soils, low frost heave potential, low surface rock, plant community type, certain land types, and elevation <5,500 feet)
- Economic and technologic viability (< 0.5 miles from existing transportation system, species value or condition, volume availability, logging systems)

In consideration of all the criteria for determining timber harvest or timber production suitability and not just the fact that harvestable species can grow at a specific location, it appears this PWA does not have conditions that pass all the criteria. The main criterion for failure is that unacceptable resource impacts would likely occur due to road construction activities. This does not preclude helicopter operations that could fly material over sensitive areas to adjacent road systems. However, in most if not all cases helicopter logging and the associated expenses (such as manual slash treatments) would not be an economically viable option.

Table 5--Stand data percentages

Suitable for Timber Harvest	Forest Groups		WUI	
0%	Parkland	28%	Total WUI	26%
	Cold Dry	6%	WUI in Dry and Mesic Forest	30%
	Cold Moist	40%		
	Mesic	0%		
	Dry	21%		
	Non-forest	5%		

Fire

The 2003 Needles Fire burned 24,000 acres in the east portion of the area with high intensity that resulted in high mortality in many of the existing stands.

The natural role of fire varies from areas of true fir west-side types, where fire has been absent for 250-450 years, to annual grass/pine-dominated communities where the fire cycle is around 10-15 years. Changes in topography and elevation have a pronounced effect on the fire occurrence rate and ultimate size of any wildfire that occurs within the area. Most of the conifer vegetation is isolated within the steep glaciated valleys that are separated by non-vegetated knife-edge ridges. Direct fire suppression action over the majority of the area is limited to aerially delivered firefighters, which includes use of helicopters and smokejumpers. The overall cost of suppression compared against expected resource loss does not meet cost benefit criteria established for fire suppression activities.

The majority of the human-caused fires have occurred along the North Cascades Scenic Highway. All of these fires were abandoned campfires.

Most wildfires that occur within the area have a positive effect on most of the resident game and non-game wildlife species found within the area by creating new browse and by reducing the flammable concentrations of natural fuels that tend to accumulate when all wildfires are extinguished. The mountain goat population known to inhabit the area depends on fire to create favorable browse conditions on established summer and winter range areas.

Insects and Disease

The Wilderness Act of 1964 allows for the control of insects and disease, but taking such actions in wilderness is rare. Forest Service wilderness policy (Forest Service Manual 2324.11) directs the agency "to allow indigenous insect and plant diseases to play, as nearly as possible their natural ecological role". Policy also directs the agency to "protect the scientific value of observing the effect of insects and disease on ecosystems and identifying genetically resistant plant species", and finally, "to control insect and plant disease epidemics that threaten adjacent lands or resources."

Large portions of this PWA are comprised of a parkland forest group and are known to support stands of whitebark pine. Due to a combination of anthropogenic causes (introduced white pine blister rust, global warming, and fire suppression leading to high severity wildfires) coupled with predation from native mountain pine beetles, whitebark

pine stands are at risk across their range. These whitebark pine stands are of inherent value as a plant community, for providing important habitat for wildlife including the federally listed grizzly bear, and for their aesthetics in contributing to the social setting. Wilderness designation would limit restoration options for these stands. Manipulations would only be considered in order to protect the composite wilderness resource, and only as a last resort to preserve naturalness at the expense of trammeling.

An insect and disease survey was completed in 2007. Liberty Bell PWA is in the Upper Methow and Granite Creek analysis areas for insect and disease survey work. The most extensive insect activity detected in the Upper Methow was defoliation by western spruce budworm. About 5,800 acres were mapped, which is less than the 9,000 acres mapped in 2006. Considerable defoliation is still visible from the North Cascades Scenic Highway, and has been the topic of numerous visitor inquiries.

Mountain pine beetle activity was mapped on about 1,800 acres, a considerable increase from 2006. An estimated 4,100 lodgepole pines and 1,600 whitebark pines were reported killed. New areas of whitebark pine mortality were mapped along Cataract Creek, Pine Creek, and Delancy Ridge.

Fir engraver activity was mapped in many parts of the analysis area. The upper South Fork of Trout Creek, which had a few pockets mapped in 2006, had over 900 acres mapped this year. A total of 4,800 acres were mapped, and an estimated 12,200 true firs killed or top killed. This is a nearly ten-fold increase over the number reported damaged in 2006.

Several pockets of Douglas-fir beetle activity were mapped. The largest was at the east end of Delancy Ridge, in an area that was heavily defoliated in 2006. A total of 2,200 acres were mapped, and about 4,900 Douglas-firs killed.

One small pocket of spruce beetle activity was detected in the South Fork of Trout Creek.

The most extensive insect activity detected in Granite Creek was fir engraver. About 4,200 acres were mapped, and an estimated 7,700 true firs killed or top killed. This is a ten-fold increase over the acres mapped in 2006. Most of the damage was mapped east of the South Fork of Slate Creek.

About 2,900 acres of defoliation by western spruce budworm were mapped, mostly along Highway 20. This is a three-fold increase over the acres mapped in 2006.

Several pockets of western balsam bark beetle were mapped, totaling about 2,300 acres. An estimated 2,000 subalpine firs were killed. Most of the damage was mapped east of the South Fork of Slate Creek.

A few pockets of Douglas-fir beetle activity were mapped. The largest were along Highway 20 near Porcupine Creek. An estimated 370 acres were affected, and about 130 Douglas-firs killed.

There was a considerable reduction in the amount of mountain pine beetle activity mapped in 2007. An estimated 300 acres were affected and about 2,800 lodgepole pines and 25 whitebark pines killed.

Several pockets of balsam woolly adelgid damage were detected, totaling about 400 acres.

Spruce beetle activity was detected on about 130 acres. An estimated 650 spruces were killed. All of the damage was mapped near Barron, where damage was also mapped in 2006.

Threatened, endangered and sensitive plant species

Four rare plant species are known to occur in the Liberty Bell PWA. These four species are: witch's hair lichen (*Alectoria nigricans*), boreal bog sedge (*Carex magellanica ssp. irrigua),* Stellar's rock brake (*Cryptogramma stelleri*), nodding saxifrage (*Saxifraga cernua*), and curved woodrush (*Luzula arcuata).*

Noxious Weeds

One noxious weed site exists within the Liberty Bell potential wilderness area. This site is located at the West Fork Methow trailhead and consists of diffuse knapweed, with a legal location of T. 37, R. 18, S.1. The knapweed is prolific in open meadow areas adjacent to the old trailhead and the new trailhead/hitch rail area. There are also several well-established knapweed populations extending down the West Fork Methow Trail for approximately four to five miles. The area infested around the trailhead is estimated at 16 acres in size, with an overall infestation of 20 acres including the sites along the trail

Minerals and Soils

The area was extensively glaciated, with soils derived from granitic glacial till overlain with volcanic ash or pumice of varying thickness. Deposits of glacial outwash occur on valley floors. Organic material is common on the soil surface and is incorporated in deeper soils, commonly in the upper 20 inches. Soils naturally covered with litter have low erosion hazards and are considered generally stable for management activities. Rilling and gullying occurs when water is concentrated on soils not covered with litter. Mass erosion hazard is moderate to very high. The erosion hazard is greatest on north and east facing steep slopes.

The southwest part of the Liberty Bell PWA is underlain by intrusive igneous rocks of the Golden Horn batholith while the northeastern part is underlain by sedimentary and volcanic rocks associated with the Methow graben. This area offers the greatest and most diversified mineral potential of any of the potential wilderness areas on the Okanogan National Forest. The PWA offers approximately 26,400 acres of lands with high, 29,000 acres of lands with moderate to high, and 35,400 acres of lands with low to moderate potential for the occurrence of locatable minerals. Twenty percent of the high, seven percent of the moderate to high, and 61 percent of the low to moderate potential lands fall within the North Cascades Scenic Highway Corridor. Several significant prospects and mines are located in the area, mainly in the high probability Tatie Peak-Barron and Canyon Creek-Azurite areas, both within Slate Creek mining district. Several mines within the district have significant recorded past production (Moen, 1969). For example, over $1.5 million worth of gold and silver were produced from several mines near Barron, namely from the New Light and Mammoth mines (Wolff and others, 2003). Additionally, the Azurite mine produced approximately $1 million in gold and silver from 1936 to 1939 (Moen, 1969; Derkey and others, 1990). Placer gold production along Ruby and Canyon Creeks in the western part of the area has been estimated at about $225,000. Exploration

targets in the high and moderate to high potential areas include precious and base metal veins and breccia bodies; large, low-grade base and minor precious metal deposits; and tungsten occurrences (Grant, 1982). Low to moderate potential areas offer favorable environments for uranium deposition (Grant, 1982).

The location of active claims in the area largely images areas of historic interest or mining. At present (6/2008), there are approximately 17 active lode and 26 active placer claims within or along the boundaries of the Liberty Bell PWA (Table 1). The majority of these claims are located in the Canyon and Slate creek drainages.

Table 6--Summary of active mining claims within the Liberty Bell PWA (from BLM LR2000 database accessed 6/2/2008)

Claim Location	Number of Active Lode Claims	Number of Active Placer Claims
Canyon Creek Drainage	7	13
Slate Creek Drainage	1	12
Mill Creek Drainage	0	1
Bonita Creek Drainage	5	0
Tatie Peak Area	2	0
East Creek Drainage	2	0
Total	17	26

The area has no to a moderate potential for the occurrence of coal and oil and gas resources and a low to moderate potential for geothermal resources. Several oil and gas leases were issued in T.37 N., R.17 E. and T. 6 N., R.18 E. in 1982 but all those leases were terminated by 1986. The lands within the PWA are not the subject of any current expressions of interest, lease applications, or leases for coal, oil and gas, or geothermal resources.

Cultural and Heritage Resources

The Cultural Resource Overview of the Twisp-Winthrop-Conconully Planning Unit (Bennett, 1979) identified evidence of numerous cabins and several lookouts and mines in the area.

Land Uses and Special Uses

Washington State is authorized by special use permit to operate a radio transmitter at the Granite Pass communications site in T. 36 N., R. 17 E., Section 36. There are outfitter-guides with special use permits for heli-skiing, mountaineering, skiing, rock climbing, stock-assisted and backpacking trips.

Private Lands

There are approximately 200 acres of patented mining claims in the area. Most of this land has been heavily impacted by mineral activity.

NEED FOR WILDERNESS

Location and size of other wildernesses in the general vicinity, and distance from the area and population centers:

The area adjoins the 529,477-acre Pasayten Wilderness and the Ross Lake National Recreation Area. It is approximately three air miles north of the 151,435-acre Lake Chelan- Sawtooth Wilderness, approximately 15 air miles north of the 570,573-acre Glacier Peak Wilderness on the Wenatchee National Forest, and approximately three air miles north of the North Cascades National Park which includes the 634,614-acre Stephen Mather Wilderness. The Liberty Bell PWA is within a four to five hour drive of the Puget Sound area and Spokane.

A separate analysis identified where the PWAs could contribute to the wilderness recreation setting either by preserving the primitive recreation setting adjacent to existing wilderness, or by contributing assessable and attractive day use destinations (which are under heavy pressure in existing wilderness). The analysis also examined which PWAs would contribute either a unique landform to the wilderness system, or where trails access vegetation types that are underrepresented in wilderness at a regional scale.

In ranking this PWA for its potential to provide a high quality wilderness recreation setting it ranked as high. The area has an extensive system of trails that adjoin the Pasayten Wilderness, including the Pacific Crest National Scenic Trail. The scenic values of this area are exceptional. There is one lake that attracts primitive recreation uses. The area is also frequently used for educational purposes, especially in the Harts Pass area. Vegetation types would provide a setting that is currently unrepresented in wilderness.

Present visitor pressure on other wildernesses, trends, and changing patterns of use:

Overall, there is a continuous, slight increase in the number of people visiting wilderness areas. The user groups showing the most increase are day hikers in the Pasayten and Lake Chelan-Sawtooth Wildernesses and day horse users in the Lake Chelan-Sawtooth Wilderness. There also appears to be a slight increase in off trail travel to specific destinations within these wilderness areas. There is also a trend to shorter multiple-day trips.

Extent to which non-wilderness lands provide opportunities for unconfined outdoor recreation experiences:

There are approximately 900,000 acres of National Forest System land outside of wilderness on the Methow Valley Ranger District. In the summer non–wilderness portions of the district draw hikers, stock users, mountain bikers and more limited motorcycle use. Certain portions also offer regionally significant rock climbing and mountaineering. In the winter the area features outstanding cross-country, backcountry skiing, and snowmobiling. The area is within four to six hours driving time from the greater Puget Sound area and two hours from Wenatchee.

The need to provide a sanctuary for those biotic species that have demonstrated an inability to survive in less than primitive surroundings or the need for a protected area for other unique scientific value or phenomena:

Wildlife

The area has extensive habitat for grizzly bear, gray wolf, wolverine, and other wide-ranging carnivores which require large areas of remote, undeveloped habitat for survival. The Liberty Bell PWA is adjacent to the Pasayten Wilderness and the Sawtooth PWA and thus provides important habitat for these species. The Liberty Bell PWA contains unique sites that are suitable for wolverine natal dens. For American marten (*Martes Americana*), grizzly bear (*Ursus arctos),* wolverine (*Gulo gulo*), and Canada lynx (*Lynx Canadensis*) the wildlife sustainability index is 144.6 (a high relative ranking) and the habitat connectivity index is 89.2 (also high relative ranking).

Fish

Several native species in the interior Columbia River Basin have demonstrated an inability to survive in less than primitive surroundings, especially the bull trout. In addition to habitat changes on National Forest System lands, other factors off forest such as hydropower generation, hatchery programs, harvest, and changing ocean conditions further challenge the persistence of some far-ranging native species. Broad-scale assessments have demonstrated a positive correlation between unroaded areas and persisting native fish stocks. Often, assessments like these don't differentiate between wilderness and roadless areas; rather they combine the two into an "unroaded" category. These assessments show current strongholds (most secure and robust populations) are dependant on wilderness and roadless areas. Some of the more resilient native fish populations in the Interior Columbia Basin are located in unroaded areas on National Forest System lands.

For the Okanogan-Wenatchee National Forest PWAs were assigned an aquatic ranking based on federally listed and sensitive fish species that are sensitive to human disturbances. A high ranking was assigned when listed fish species occur in the PWA or when ecological process including high quality water help sustain listed fish species downstream of the PWA. All other PWAs are ranked low. This PWA is assigned a high ranking based on these factors.

Rare Plant Species

An analysis was completed to prioritize which PWAs would contribute the most to providing refugia for those plant species on the species of interest/species of concern (SOI/SOC) list. The analysis ranked three factors. The first factor, the total number of sites occurring within the PWA, ranked as low for this PWA. The second factor, which ranked as high for this PWA, examined the degree of rarity of any SOI/SOC species present, and also recognized the importance of individual PWAs in supporting a high incidence of populations relative to Washington State as a whole.

PWAs are generally unsurveyed for rare plants due to a relative lack of projects occurring in these areas. Thus an additional factor examined the potential for the PWA to support

SOI/SOC species. Based on databases, first the SOI/SOC plant species were identified that are present within a five-mile radius of the PWA, but are not known to occur within the PWA. Then the PWA was analyzed to see if the potential habitat for these species occurs within the PWA. Based on this analysis, this PWA ranks as high.

Finally, a composite score was assigned to each PWA based on combining each of the rankings described above. This PWA ranks overall as high priority for preserving rare plant refugia with a wilderness designation.

Ability to provide for preservation of identifiable landforms types and ecosystems:

The Liberty Bell PWA is mapped into the East Cascades Ecoregion using Bailey's Ecoregion Classification system. Wilderness lands are well represented in the East Cascades ecoregion.

The landform types and ecosystems along the Highway 20 corridor are preserved by National Scenic Highway and scenic area policy and management direction.

An analysis compared vegetative cover types that are under-represented in wilderness on the National Forest System in Region 6 with those same cover types present in the PWA. Large-scale cover types were available through existing data layers and represent approximately 22 percent of the vegetative cover of this PWA (approximately 25,120 acres). These types include forb lands, alpine meadow, non-alpine meadow, ponderosa pine, and western red cedar. Taken as a whole, the contribution of underrepresented vegetation types ranks as high for the portion of this area with underrepresented cover types, and also as high for the number of acres that are represented within this PWA relative to the other PWAs in the planning area. It should be noted that this PWA, with over 25,000 acres of underrepresented cover types, has the third highest acreage of such cover types in the entire planning area.

Some under-represented cover types fill microhabitats such as riparian areas or perched water tables. Such finer scale cover types represented in this PWA include sparse amounts of cottonwood and aspen.

In particular, the forb land, alpine meadow, and ponderosa pine cover types would make a significant contribution within the eastern Washington planning area.